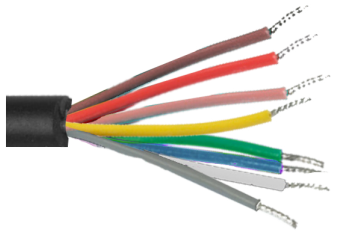
Product Overview

1 Connect Your Sensor

Remove the (4) black screws that hold the top of the node in place. Connect your sensor.

Conduit Models: Analog and Digital

Thread the included wire harness through the conduit and into the node. Plug it into the circuit board inside the node.

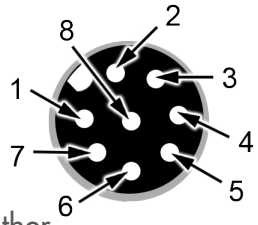


1 Brown
2 Red
3 Pink
4 Yellow
5 Green
6 Blue
7 White
9 Gray

Connect your sensor to the wires running from the node's conduit. Consult the chart on the other side of this page for wiring instructions.

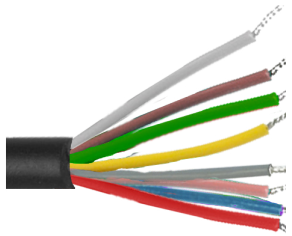
M12 Models: Analog and Digital with Accessory Cable

You can use your own M12 cable or order B&B Electronics accessory WSCAM12-6



Consult the chart on the other side of this page for wiring instructions.

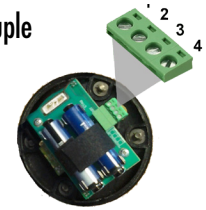
B&B M12 Accessory Cable



1 White
2 Brown
3 Green
4 Yellow
5 Gray
6 Pink
7 Blue
9 Red

Terminal Block Connections: Thermocouple

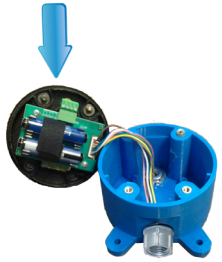
Thread the thermocouple wires through the conduit and attach them to the terminal block.



1 = Thermocouple input #1 positive (+)
2 = Thermocouple input #1 negative (-)
3 = Thermocouple input #2 negative (-)
4 = Thermocouple input #2 positive (+)

2 Install Your Batteries

Use (2) 3.6V 2400 mAH Lithium Thionyl Chloride AA batteries.



Replace the cover and tighten the (4) screws. Screws must be tightened to 5 in-lb torque in order to maintain IP67 rating. (This can be accomplished via hand tightening.)

3 Check LEDs

After you have installed the batteries the LED will begin to blink. This indicates that the Node is attempting to establish a network connection. The LED will cease blinking when a connection is made.

Status LED		
Data	Solid On	Module startup initialization, approx. 10 sec.
	Slow Blink (1 per sec.)	Attempting to establish connection with SmartMesh IP network
	Fast Blink (10 per sec.	Firmware Update in progress
	OFF	Unit is connected to wireless network

4 Install the Wzzard App on Your Handheld Device

Install the Wzzard app on your Android or IOS handheld device. Your handheld device must be compatible with Bluetooth LE 4.0.

The Wzzard app can be downloaded from:
-- http://bb-smartsensing.com/
-- Playstore (Android) or
-- Apple (Itunes) app store.

Search stores for
"Wzzard Sensor Application."

1. Open the Wzzard App.

2. Press the "Configuration' button on the Node to wake up Bluetooth.

3. Select the device you would like to view from the list. Note that the list may take a few moments to populate. (This screen lets the user view Bluetooth advertisements from the Nodes.)

4. Press the "Configure Device" button.

5. Pair with the device. Defaults are **admin/admin.**

6. Press the "Radio Setup' button to set the Network ID and Network Join Key. (These must be the same values that you enter in the corresponding network gateway.)

7. Press the 'Save' button to save the new settings.

Wiring for Units with Conduit Connectors and Attached Wiring Harness

Model	1 Brown	2 Red	3 Pink	4 Yellow	5 Green	6 Blue	7 White	8 Gray
WSD2CTJ	3.3V					DO	GND	GND
WSD1CTJ	3.3V					DO	GND	GND
WSD2CTK	3.3V					DO	GND	GND
WSD1CTK	3.3V					DO	GND	GND
WSD2CA2	3.3V	AIN1	GND	AIN2	GND	DO	3.3REF	GND
WSD1CA2	3.3V	AIN1	GND	AIN2	GND	DO	3.3REF	GND
WSD2CD2	3.3V	DIN1	DIN2	DO1	DO2	GND	GND	GND
WSD1CD2	3.3V	DIN1	DIN2	DO1	DO2	GND	GND	GND
WSD2CA3	3.3V	AIN1	GND	AIN2	GND	AIN3	GND	GND
WSD1CA3	3.3V	AIN1	GND	AIN2	GND	AIN3	GND	GND
WSB1CTJ	3.3V					DO	GND	GND
WSB1CTK	3.3V					DO	GND	GND
WSB1CA2	3.3V	AIN1	GND	AIN2	GND	DO	3.3REF	GND
WSB1CD2	3.3V	DIN1	DIN2	DO1	DO2	GND	GND	GND

Wiring for Units with M12 Connectors and B&B M12 Accessory Cable

Model	1 White	2 Brown	3 Green	4 Yellow	5 Gray	6 Pink	7 Blue	8 Red
WSD2MA2	3.3V	AIN1	GND	AIN2	GND	DO	3.3REF	GND
WSD1MA2	3.3V	AIN1	GND	AIN2	GND	DO	3.3REF	GND
WSD2MD2	3.3V	DIN1	DIN2	DO1	DO2	GND	GND	GND
WSD1MD2	3.3V	DIN1	DIN2	DO1	DO2	GND	GND	GND
WSD2MA3	3.3V	AIN1	GND	AIN2	GND	AIN3	GND	GND
WSD1MA3	3.3V	AIN1	GND	AIN2	GND	AIN3	GND	GND
WSB1MTJ	3.3V					DO	GND	GND
WSB1MTK	3.3V					DO	GND	GND
WSB1MA2	3.3V	AIN1	GND	AIN2	GND	DO	3.3REF	GND
WSB1MD2	3.3V	DIN1	DIN2	DO1	DO2	GND	GND	GND

Wiring Chart Abbreviations

3.3V = 3.3V power input
3.3REF= 3.3V output reference
AIN1= Analog Input #1
AIN2= Analog Input #2
AIN3= Analog Input #3
DO = Digital Output
DIN1= Digital Input #1
DIN2= Digital Input #2
D01= Digital Output #1
D02= Digital Output #2

5 Configure the Node

Refer to the Intelligent Edge Node User manual for further details and the App Configuration Manual for detailed configuration instructions.

6 Mount the Node

Flange Mounting

Wzzard nodes may be mounted via their mounting ears. (M5, #10)

Magnetic Mounting

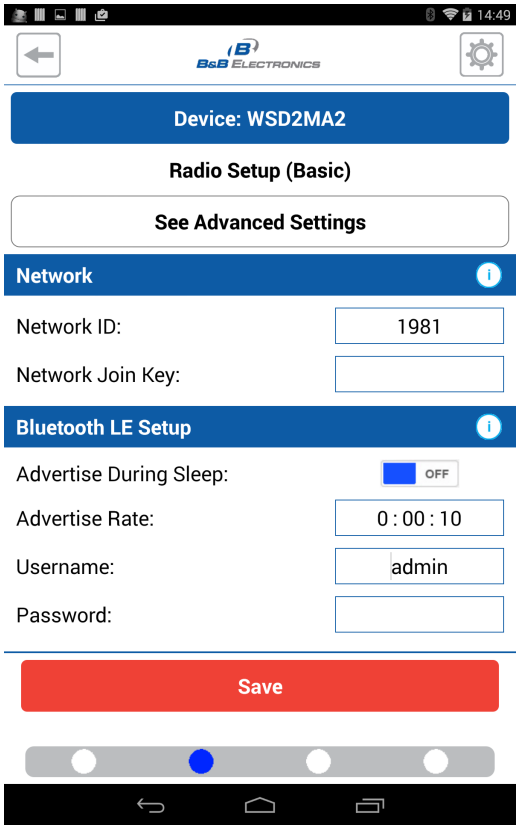
Wzzard nodes contain a powerful, internal mounting magnet. (Pull force 4.7 lbs, 2.13 kg) The magnet is in the base of the Wzzard node.

7 Resetting the Node

When you press and hold the "Configuration" button on the Node for more than 5 seconds it will:

-- Restore the BLE login and password/ encryption key/encryption enable.
-- Restart the device.

It will not reset the device back to factory settings.



Doc. Number – 710-10263-00_R0_ Wzzard Smartmesh IP_4214qsg

Recommended Accessories

ZXTMT

Cable Gland/Conduit Kit
http://www.bb-elec.com/Products/Wireless-Cellular/Wireless-Accessories/Zlinx-Xtreme-Accessories.aspx

371-9000-001G

001G Rubber Duck Magnetic Mount Antenna with 5′ Cable with RPSMA Plug
http://www.bb-elec.com/Products/Wireless-Cellular/Wireless-Accessories/Wireless-Accessories.aspx

Fast, Easy Answers

You can use your smart phone to access complete documentation on our website. Simply scan the code to the right.

B+B SmartWorx

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Quick Start Guide

Wzzard™ Intelligent Edge Node with SmartMesh IP and Bluetooth LE

First Things First...

Before you begin, be sure you have the following:

- ○ Wzzard Intelligent Edge Node
- ○ Wire harness
- ○ Two Lithium Thionyl Chloride AA batteries
- ○ External Antenna (Some models)

B+B SmartWorx

Fast and easy on the web: www.bb-elec.com

Wzzard Configuration Charts

Configuration Screen	Parameter	Parameter Range	Default Value	Description
RADIO	Network ID	1 - 65534	1248	Unique identifier for the sensor network. This ID must match the gateway.
	Join Duty Cycle	0.2 - 99.8	94.1%	The percent of time that the node will be awake. A higher value allows the node to connect to the gateway faster but uses more battery current.
	Network Join Key	32 hexadecimal characters		128-bit encryption key for the network
	Advertise During Sleep	On/Off	Enabled	Enables sensor broadcast messages over the Bluetooth LE interface while the node is asleep.
	Advertise Rate	10 - 86400 seconds	10	Interval between broadcast messages.
	Username	16 characters	admin	Login name for configuring the node
	Password	16 characters	admin	Password for configuring the node

Configuration Screen	Parameter	Parameter Range	Default Value	Description
DEVICE CONFIG	Description	0 - 40 characters		User-defined text field
	Exception-based Measurement Interval	0, 10-86400 seconds	0	Determines how frequently the node will wake up to check for an exception
	Publish Interval	10 seconds to 23:59:59 hours	60	Determines the interval between publishes to the broker.

Configuration Screen	Parameter	Parameter Range	Default Value	Description
GEO LOCATION	Latitude	-90 to 90 degrees	0.0	Geographical location of the sensor
	Longitude	-180 to 180 degrees	0.0	Geographical location of the sensor
	Elevation	-999999.9 to 999999.9	0.0	Elevation of the sensor

Configuration Screen	Parameter	Parameter Range	Default Value	Description
Analog Inputs	Sensor Enable	On/Off	ON	Enables publishing of the sensor data to the broker
	Analog Input Type	0-20mA, 4-20mA, 0-5V, 1-5V	0 - 5V	The type of sensor connected to the input
	Sensor Label	32 characters	ainx	User-defined text field to describe the sensor
	Measurement Unit	8 characters		Engineering unit of measure
	Sensor Span Point	-999999.9 to 999999.9	5.0	The value that is reported when the input is at the maximum value.
	Sensor Zero Point	-999999.9 to 999999.9	0.0	The value that is reported when the input is at the minimum value
	Enable Exception	On/Off	On	Enables publishing of the sensor data to the broker when an alert level is reached
	Alert High	-999999.9 to 999999.9		The node will send an update to the broker when the input exceeds this value.
	Alert Low	-999999.9 to 999999.9		The node will send an update to the broker when the input falls below this value.
	BLE Advertisement Enable	On/Off	On	When enabled, the node will broadcast the sensor value over the Bluetooth interface.

Configuration Screen	Parameter	Parameter Range	Default Value	Description
Internal Temperature	Sensor Enable	On/Off	On	Enables publishing of the sensor data to the broker
	Sensor Label	32 characters	tempint	User-defined text field to describe the sensor
	Measurement Unit	Cel/[degF]	Cel	Engineering unit of measure
	Enable Exception	On/Off	On	Enables publishing of the sensor data to the broker when an alert level is reached
	Alert High	-999999.9 to 999999.9		The node will send an update to the broker when the input exceeds this value.
	Alert Low	-999999.9 to 999999.9		The node will send an update to the broker when the input falls below this value.
	BLE Advertisement Enable	On/Off	On	When enabled, the node will broadcast the sensor value over the Bluetooth interface.

Configuration Screen	Parameter	Parameter Range	Default Value	Description
Battery Voltage	Sensor Enable	On/Off	ON	Enables publishing of the sensor data to the broker
	Sensor Label	32 characters	vbatt	User-defined text field to describe the sensor
	Measurement Unit	Cel/[degF]	Cel	Engineering unit of measure
	Enable Exception	On/Off	On	Enables publishing of the sensor data to the broker when an alert level is reached
	Alert High	-999999.9 to 999999.9		The node will send an update to the broker when the input exceeds this value.
	Alert Low	-999999.9 to 999999.9		The node will send an update to the broker when the input falls below this value.
	BLE Advertisement Enable	On/Off	On	When enabled, the node will broadcast the sensor value over the Bluetooth interface.

Configuration Screen	Parameter	Parameter Range	Default Value	Description
Accelerometer	Sensor Enable	On/Off	ON	Enables publishing of the sensor data to the broker
	Sensor Label	32 characters	ainx	User-defined text field to describe the sensor
	Measurement Unit	8 characters		Engineering unit of measure
	BLE Advertisement Enable	On/Off	On	When enabled, the node will broadcast the sensor value over the Bluetooth interface.
	Accelerometer Granularity	2G, 4G, 8G	4G	Measurement range of the accelerometer. A lower value will increase the sensitivity of the accelerometer.
	Accelerometer Interval	12.5, 25, 50, 100, 200, 400Hz	100Hz	Frequency Response of the accelerometer. A higher value will allow the accelerometer to capture faster events.

Configuration Screen	Parameter	Parameter Range	Default Value	Description
Digital Inputs	Sensor Enable	On/Off	ON	Enables publishing of the sensor data to the broker
	Sensor Label	32 characters	dinx	User-defined text field to describe the sensor
	Measurement Unit	8 characters		Engineering unit of measure
	Digital Input Type	Boolean, Count, Rate	Boolean	The type of sensor connected to the input - either a boolean input, a counter/totalizer, or a rate meter.
	Enable Exception	On/Off	On	Enables publishing of the sensor data to the broker when an alert level is reached
	Alert High	-999999.9 to 999999.9		The node will send an update to the broker when the input exceeds this value.
	Alert Low	-999999.9 to 999999.9		The node will send an update to the broker when the input falls below this value.
	Invert Input	On/Off	On	Changes the input from an active high input to an active low input
	BLE Advertisement Enable	On/Off	On	When enabled, the node will broadcast the sensor value over the Bluetooth interface.
	True Message	8 characters		Message that is displayed when the boolean input is true.
	False Message	8 characters		Message that is displayed when the boolean input is false.
	Minimum On Time	seconds	0.001	The minimum amount of time that the input signal must be low or high before it is registered as a valid pulse.
	Period	seconds	0.5	Update frequency for the rate meter.
	Multiplier	-999999.9 to 999999.9-	1	The scale factor for the counter and rate meter.

Configuration Screen	Parameter	Parameter Range	Default Value	Description
Digital Outputs	Sensor Enable	On/Off	ON	Enables publishing of the sensor data to the broker
	Sensor Label	32 characters	doutx	User-defined text field to describe the sensor
	Invert Output	On/Off	Off	Inverts the level of the output.
	BLE Advertisement Enable	On/Off	On	When enabled, the node will broadcast the sensor value over the Bluetooth interface.

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